SNIP AND DALE'S RESTAURANT (PWSNO 1400051)
SOURCE WATER ASSESSMENT REPORT

March 25, 2003

State of Idaho
Department of Environmental Quality

SOURCE WATER ASSESSMENT FOR SNIP AND DALE'S RESTAURANT

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like Snip and Dale's Restaurant, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for Snip and Dale's Restaurant* describes factors used to assess susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use inside the delineation boundaries, well site characteristics, potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for Snip and Dale's Restaurant is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should <u>not</u> be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

<u>Well Construction</u>.

The Snip and Dale's Restaurant water system serves a restaurant and the owner's residence located on Silver Valley Road about a quarter of a mile west of Smelterville, Idaho. Drinking water is supplied by a 6-inch cased well located in a covered steel lined pit at the southern edge of the restaurant parking area. Estimates of the well's depth in the public water system file for the restaurant vary from 90 to 190 feet. The well log for Snip and Dale's is not on file with DEQ and was not found in a search of Idaho Department of Water Resources records. Because no well log is available, several factors used to assess vulnerability to contamination are unknown. Unknown risks are scored conservatively.

Pictures in the public water system file for Snip and Dale's show that the well casing originally projected above grade. It was enclosed in the covered steel structure and the structure then partially buried when the sloped south of the restaurant was re contoured and stabilized.

Well Site Characteristics.
Hydrologic sensitivity scores reflect natural geologic conditions at the well site and in the recharge zone. Information for this part of the analysis is derived from individual well logs and from the soil drainage classification inside the delineation boundaries. 4 points out of 6 points possible were marked against the Snip and Dale's Restaurant well in this portion of the analysis.

Soils covering the recharge zone delineated for Snip and Dale's Restaurant are poorly drained to moderately well drained. Soils in this classification are more protective of the ground water than soils that drain rapidly. The composition of the soil above the water table at the well site is not known since no well log is available. A site investigation in March 2000 concluded that the well pumps ground water without surface water influence.

Potential Contaminant Inventory.
Land use inside the protection zone for Snip and Dale's Restaurant is suburban. Other than the county road, owner's residence, garage and restaurant, there are no potential contaminant sources documented inside the 1000-foot radius delineated around the well.

Water Quality History.
Snip and Dale's Restaurant well was an excellent water quality history. All quarterly total coliform bacteria tests in the period from January 1998 through November 2002 were negative. The system does not chlorinate its water. Annual tests for nitrates show concentrations ranging from undetectable levels to 0.12 mg/l. The Maximum Contaminant Level for nitrate is 10 mg/l.

Susceptibility to Contamination.
An analysis of the Snip and Dale's Restaurant well, incorporating information from the public water system file, and the potential contaminant inventory, ranked the well moderately susceptible to all classes of regulated contaminants. Unknown risks related to well construction and well site geology added the most points to the final susceptibility scores. Only 1 point of the 10 marked against the well related to land use and potential contaminants in the vicinity. The complete ground water susceptibility work sheet for your system is on page 6 of this report. Formulas used to compute final scores and susceptibility rankings are at the bottom of the worksheet.

Source Water Protection.
This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Source Water Protection (continued).
Continuing to operate and maintain the well in compliance with the *Idaho Rules for Public Drinking Water Systems* is the best drinking water protection tool available to Snip and Dale's Restaurant. The March 2000 Sanitary Survey of Snip and Dale's said the well pit needs to be filled and the casing needs to be raised at least 12 inches above finished grade. The well also needs to be vented properly. Both improvements would reduce the likelihood of microbial contamination that could accompany unusual surface water runoff conditions.

There are a number of voluntary well protection measures Snip and Dale's Restaurant should also consider. Parking within 50 feet of the well should be discouraged. The system should look into ground water stewardship programs like Home*A*Syst on the web or by phone (608) 262-0024. These programs are designed to help well owners assess everyday activities for their potential impact on drinking water quality. Both the restaurant and a garage are within 100 feet of the well so maintenance practices and storage of petroleum products, lawn and household chemicals and similar activities should be reviewed periodically to ensure that they don't affect the well.

Every water system should develop an emergency response plan. There is a simple fill-in-the-blanks form available on the DEQ website to guide systems through the emergency planning process.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

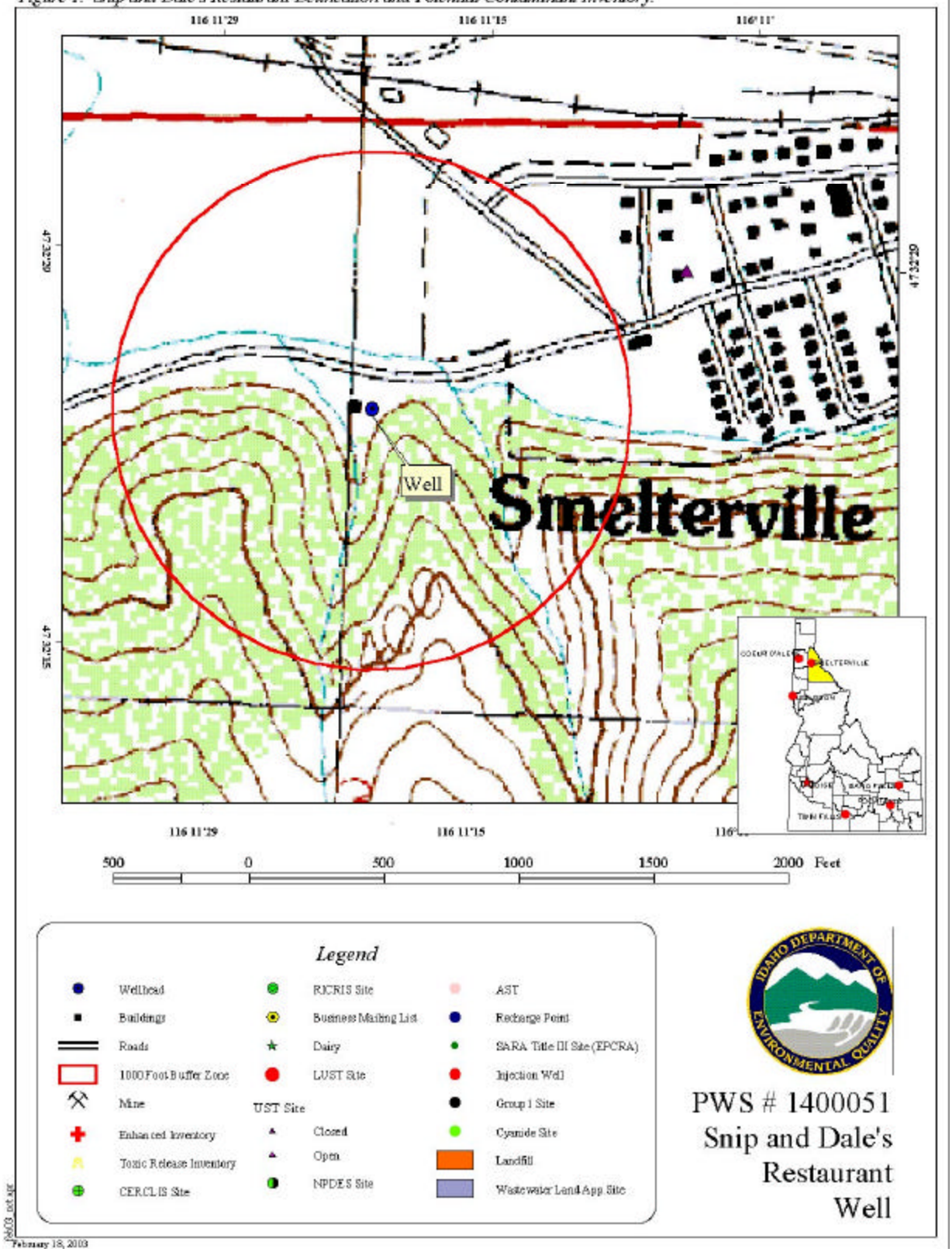
Assistance.
Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request help with drinking water protection planning.

Coeur d'Alene Regional DEQ Office	(208) 769-1422
State IDEQ Office	(208) 373-0502
DEQ Website:	www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper of the Idaho Rural Water Association (208) 343-7001 for assistance with drinking water protection strategies.

Idaho Rural Water Association Website:	www.idahoruralwater.com
Home * A * Syst Website:	www.uwex.edu/homeasyst

Figure 1. Snip and Dale's Restaurant Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name : **SNIP AND DALES RESTAURANT** Well : **WELL**

Public Water System Number : **1400051** 2/18/03 10:24:18 AM

1. System Construction		SCORE			
Drill Date	UNKNOWN				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES 2000				
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	UNKNOWN	2			
Highest production 100 feet below static water level	UNKNOWN	1			
Well protected from surface runoff	NO. Well in pit	1			
Total System Construction Score		**5**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	UNKNOWN	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	UNKNOWN	2			
Total Hydrologic Score		**4**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use		Score	Score	Score	Score
Land Use Zone	SUBURBAN	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score		**1**	**1**	**1**	**1**
Potential Contaminant / Land Use - 1000-Foot Radius					
Contaminant sources present (Number of Sources)	COUNTY ROAD, PARKING	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
1000-Foot Radius contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use 1000-Foot Radius	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius		**3**	**3**	**3**	**2**
Cumulative Potential Contaminant / Land Use Score		**4**	**4**	**4**	**3**
4. Final Susceptibility Source Score		**10**	**10**	**10**	**10**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ? Superfund? is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.